

**REMARKS**

Applicant appreciates Examiner's consideration of the remarks submitted February 12, 2010. The following remarks are submitted as fully responsive to the Office Action of June 8, 2010.

Claims 16-22, 24-25, and 27-30 are pending.

Applicant hereby incorporates by reference the remarks made of record February 12, 2010 as germane to the pending claims. Solely for the sake of furthering prosecution, and without admission or relinquishment of equivalents, claim 1 is currently amended to recite that combustion gas is provided to burn stoichiometrically with the feedstock. This amendment is fully supported by the specification as filed at page 15, lines 17-20. No new matter is added by way of amendment.

Claim 29 is currently amended to recite that the speed of the feedstock is adjusted in response to the requirements for the output hydrogen. This amendment is fully supported by the specification as filed at page 14, lines 4-6. No new matter is added by way of amendment.

Currently pending claims 16-22, 24-25, and 27 stand rejected under 35 U.S.C. §103(a) over Towler et al. (US 6,409,974) in view of Autenrieth (US 6,423,435).

In addition, claims 28-30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Towler et al. in view of Autenrieth and further in view of Thompson (US 5,281,253).

Reconsideration and withdrawal of all rejections is respectfully requested on the basis that Trowler teach away from using a hydrogen purification membrane as per Autenrieth.

Claim 1 is currently amended to recite that the reaction is performed using stoichiometric amounts of combustion gas such as air. Neither Trowler nor Autenrieth et al. teach or suggest controlling the level of combustion gas so as to create a stoichiometric reaction. Both the

Trowler and Autenrieth et al. systems use partial oxidation reactions in a reformer to generate hydrogen. Neither reference teaches or suggests a process that uses stoichiometric levels of combustion gas. As such, all elements of claim 16, or claims that depend therefrom are not taught nor suggested by the cited prior art.

With respect to the rejection of claims 28-30 as unpatentable over Towler in view of Autenrieth and Thompson, claim 28 recites that it is the feedstock that is regulated in response to hydrogen pressure, not the reformat product. The outstanding office action cites a portion of Thompson that does not characterize the reference as one of ordinary skill in the art would. Thompson is directed to regulating the pressure immediately upstream of the membranes. (See e.g. FIGs. 1 and 2 where the inlet 1 is attached to a pump 2 that feeds a membrane unit.) This does not teach controlling the speed of the feedstock to a reactor (as a separate reactor to the membrane reactor) as per claim 28. As such, Thompson fails to teach or suggest the claimed pressure monitoring linked to feedstock flow rate. Thus, claim 28 has an independent basis of patentability.

With respect to claim 29, this claim is currently amended to clarify that the feedstock is adjusted in response to downstream requirements for the output purified hydrogen. None of the cited prior art teaches or suggests adjusting the feedstock speed in response to output requirements.

Applicant submits that pending claims 17-22, 24, 25, 27 and 28, each of which depend from claim 16, are allowable as dependent from claim 16 believed to be in allowable form and directed to patentable subject matter. In addition, claims 29 and 30 are submitted to be patentable. In light of the above remarks, reconsideration and withdrawal of the rejection as to

claims 16-22, 24, 25, and 27-30 as unpatentable over Towler in view of Autenrieth alone or in combination with Thompson is respectfully requested.

**Summary**

Claims 16-22, 24, 25, 27, and 28-30 are pending with entry of this amendment. Reconsideration and withdrawal of the rejections as to all claims and passing of this application to allowance are requested.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 07-1180.

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Respectfully submitted,

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